

TECHNICAL REPORT

January 2002

Safety Belt Usage In Illinois

November 2001 Observational Survey Results

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Division of Traffic Safety

Evaluation Unit

The Evaluation Unit within the Division of Traffic Safety in the Illinois Department of Transportation focuses on evaluation and monitoring of various highway safety programs in Illinois. The research and evaluation issues include costs and benefits of child seats, safety belts and motorcycle helmets in the real world of crashes, evaluation of highway safety projects and programs, such as Traffic Law Enforcement Program (TLEP), Local Alcohol Program (LAP), IMaGE projects, high accident locations project, and health care costs and utilization of motor vehicle crash victims.

This report provides a descriptive analysis of safety belt usage in Illinois. The survey was a statistical (multi-stage random) observational survey conducted statewide during November 2001 on both high volume state highways and low volume local roads and residential streets. The survey provided a statistically representative sample of the state as a whole.

The report was compiled and prepared by the Evaluation staff. Comments or questions may be addressed to Mehdi Nassirpour, Chief of Evaluation Unit, Bureau of Administrative Services, Division of Traffic Safety, Illinois Department of Transportation, 3215 Executive Park Drive, Springfield, Illinois 62794-9245.

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Survey Design

The recent belt survey was a statistical (multi-stage random) observational survey conducted statewide during November 2001 on both high volume state highways and low volume local roads and residential streets. The survey provided a statistically representative sample of the state as a whole. The survey design was based on the National Highway Traffic Safety Administration's requirements and had four characteristics.

1. The survey was conducted between 7:00 a.m. and 4:30 p.m. when the light was adequate for observation.
2. The survey observations were restricted to front seat occupants (drivers and outboard passengers) of passenger cars (cars, sport utility vehicles, taxis and vans) and pickup trucks.
3. Only the use of a shoulder harness was observed since vehicles passed an observation point without stopping.
4. The survey sites included interstate highways, freeways, county roads, state highways and a random sample of residential streets within selected areas.

There were 102,161 front seat occupants at 258 locations statewide observed in this survey. Of those, 91,534 drivers and outboard passengers were in passenger cars (which included cars, sport utility vehicles, and vans) and 10,627 were in pickup trucks. For more information on survey design, refer to the original report entitled "Design of the New Safety Belt Usage Survey in Illinois", Division of Traffic Safety, Illinois Department of Transportation (IDOT), January 1994.

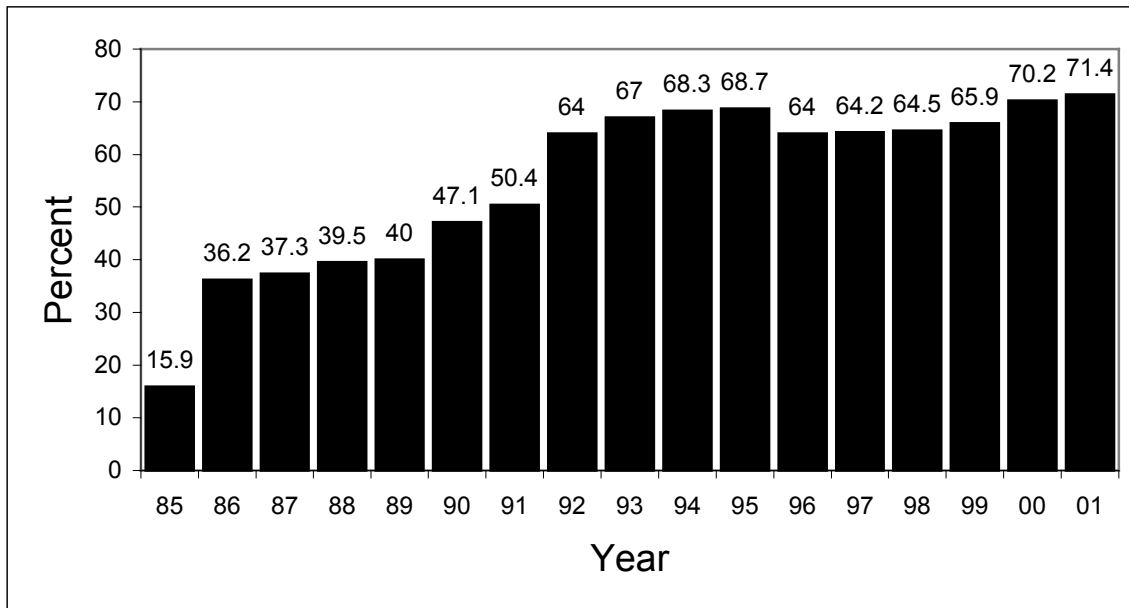
Historical Trends

Illinois' first safety belt survey was conducted in April 1985, prior to the safety belt law becoming effective on July 1, 1985. The data from the first survey became a base from which to measure the success of Illinois' efforts to educate citizens about the benefits of using safety belts.

The base line (April 1985) occupant restraint usage rate for all front seat occupants (drivers and passengers) observed in Illinois was 15.9 percent. During the first twelve months after the safety belt law became effective, the observed usage rate increased to 36.2 percent. Since that time, the usage rate has shown a gradual increase, peaking in November 2001 at a level of 71.4 percent. There was an increase of over 53 percentage points since the first survey was conducted in April 1985 (**see Figure 1**). It should be noted that the 1998 through 2001 safety belt surveys include

pickup truck drivers and passengers who tend to have significantly lower usage rates than the front seat occupants of passenger cars. For example, the usage rates for the pickup truck occupants were 49.6 percent in 1999, 54.2 percent in 2000, and 56.5 percent in 2001.

Figure 1
Front Seat Occupant Restraint Usage Rate
 Comparison of Survey Results



Note: 1998, 1999, 2000, and 2001 safety belt usage rates include pickup truck drivers and passengers.

Summary of Findings

Tables 1, 2 and 3 show results of the safety belt survey conducted at 258 sites during November 2001. Columns 1, 3 and 5 depict total number of observations for drivers, passengers and combined drivers and passengers respectively. Columns 2, 4 and 6 represent actual safety belt usage rates for drivers, passengers and totals (drivers and passengers). The categories listed down the left side of the table indicate the various regions of the state where the survey was conducted (with the number of sites in each region in parentheses), road types, time of day the survey was conducted, and a breakdown of weekdays and weekends. A total of 102,161 front seat occupants were observed during the survey. Looking at these tables, it is evident that the safety usage rate patterns across selected categories for drivers are similar to that for passengers.

Table 1 shows safety belt use for combined passenger cars and pickup trucks. Of the total of 102,161 front seat occupants of both passenger cars and pickup trucks, 71.4 percent wear safety belts. The collar counties of DuPage, Will, Kane, McHenry, and Lake had the highest usage rate at 76.0 percent followed by Cook County, excluding the City of Chicago, at 70.2 percent. The downstate counties (Champaign, Macon, Rock Island, St. Clair, Montgomery and Peoria) had a usage rate of 67.5 percent and the City of Chicago had the lowest rate at 65.0 percent. Interstate highway travelers had the highest usage rate at 81.7 percent followed by US and Illinois marked highway travelers at 71.9 percent. Motorists traveling on residential streets had the lowest rate at 67.7 percent. Non-rush hours had the highest usage rate at 73.3 percent followed by the morning rush hours (7:00 a.m. to 9:30 a.m.) which had a usage rate of 70.2 percent. The noon rush hours (11:30 a.m. to 1:30 p.m.) had the lowest usage rate at 67.5 percent. The usage rate on weekends was slightly higher at 73.7 percent than the 69.1 percent on weekdays.

Table 2 presents safety belt use data and information for drivers and passengers of passenger cars excluding pickup trucks. Of the total of 91,534 observations, 73.1 percent were wearing seat belts. The safety belt usage rate for passengers was slightly higher than that for drivers (74.4 percent versus 72.8 percent). The usage rate patterns across selected categories in **Table 2** are similar to the overall usage rate patterns shown in **Table 1**.

Table 3 shows safety belt use patterns for pickup truck drivers and passengers. A total of 8,764 drivers and 1,863 passengers were observed. The usage rate patterns across selected categories in **Table 3** are similar to the overall usage rate patterns shown in **Table 1** with slight differences. The first difference occurred by region. Pickup truck occupants had the highest usage rate in the Collar Counties at 59.9 percent. The second highest usage rate was the downstate counties at 56.1 percent, followed by Cook County, excluding the City of Chicago, at 52.6 percent. Finally, the City of Chicago had the lowest usage rate for pickup trucks at 46.9 percent. Also, there was a difference in trends based on road type. Pickup truck occupants wore their seatbelts 66.0 percent of the time while traveling on Interstate Highways. Residential roads had the second highest usage rate at 54.4 percent and U.S./Illinois Highways had the lowest usage rate at 53.5 percent. These were the only differences in trends with the overall survey.

Table 4 through **Table 6** present safety belt usage rates in July 2000 and November 2001 and percent changes among front seat occupants of passenger cars and pickup trucks.

Table 4 and **Figure 2** depict that the overall safety belt usage rate among drivers and front seat passengers increased by 1.2 percent from July 2000 to November 2001. Almost all of the overall usage rates increased from July 2000 to November 2001 with a few exceptions. The highest percent increase in belt use occurred within the City of Chicago showing an increase of 4.9 percent. Cook County, excluding the City of Chicago, had a substantial increase in belt use at 4.6 percent, while the Collar Counties and Downstate Counties did not show much change with an increase of 0.9 percent and a decrease of 1.1 percent change respectively. Residential roads showed a significant increase of 2.2 percent. Interstate Highways did not show much change with an increase of 1.2 percent, while U.S./Illinois Highways showed a slight decrease by 1.8 percent. Non-rush hours had an increase of 2.3 percent and noon rush hours had a slight increase of 0.4 percent. On the other hand, morning rush hours had a decrease of 1.4 percent. Finally, both weekday and weekend motorists have shown a slight increase in belt use with increases of 1.2 percent and 1.3 percent respectively.

Table 5 and **Figure 3** show that the safety belt use among passenger car drivers and passengers increased by 1.2 percent from 71.9 percent in July 2000 to 73.1 percent in November 2001. **Table 5** follows the same trends which are found in **Table 4**.

Table 6 and **Figure 4** show that the safety belt usage for pickup truck drivers and passengers increased by 2.3 percent from 54.2 percent in July 2000 to 56.5 percent in November 2001. Both the City of Chicago and Cook County (excluding the City of Chicago) showed substantial increases in belt use of 7.9 percent and 6.9 percent respectively. The downstate counties showed an increase of 3.1 percent, while the Collar Counties showed only a slight increase of 1.7 percent. Belt usage on residential roads was up by 5.7 percent and on Interstate Highways it was up 2.8 percent. On the other hand, U.S./Illinois Highways showed a significant decrease in belt use by 5.8 percent. There was an increase of 4.8 percent in belt use for pickup truck occupants during noon rush hours. Plus, there was a slight increase in belt use during non-rush hours at 2.7 percent. There was a slight decrease in belt use during morning rush hours at 0.6 percent. Both weekends and weekdays showed increases in belt use with weekdays showing a slightly larger increase of 3.9 percent to a 1.0 percent increase during the weekends.

Table 1
Overall Safety Belt Usage Rates in Illinois
(November 2001)

	Drivers		Passengers		Total	
	Total Observed	Actual Usage Rate	Total Observed	Actual Usage Rate	Total Observed	Actual Usage Rate
	(1)	(2)	(3)	(4)	(5)	(6)
Statewide (258)	85,164	71.2%	16,997	72.3%	102,161	71.4%
Regions						
City of Chicago (46)	18,301	65.5%	3,837	62.8%	22,138	65.0%
Cook County (40)	11,140	70.2%	1,572	69.8%	12,712	70.2%
Collar Counties (118)	39,923	75.5%	8,987	78.3%	48,910	76.0%
Downstate (54)	15,800	67.6%	2,601	67.1%	18,401	67.5%
Road Type						
Residential (190)	53,651	68.0%	9,771	66.5%	63,422	67.7%
U.S./Illinois Highways (40)	14,399	72.0%	3,129	71.3%	17,528	71.9%
Interstate Highways (28)	17,114	80.4%	4,097	87.0%	21,211	81.7%
Time of Day*						
Morning Rush Hours (55)	22,944	70.2%	4,244	69.9%	27,188	70.2%
Noon Rush Hours (45)	15,962	67.4%	3,413	67.5%	19,375	67.5%
Non-Rush Hours (158)	46,258	72.9%	9,340	75.2%	55,598	73.3%
Day of Week						
Weekends (115)	40,416	73.2%	9,835	75.8%	50,251	73.7%
Weekdays (143)	44,748	69.4%	7,162	67.5%	51,910	69.1%

Note: Pickup trucks and passenger cars (cars, sport utility vehicles, taxicabs and vans) were included in this table.
 *Evening rush hour (4:30 p.m. to 6:30 p.m.) surveys were conducted during daylight hours (7:00 a.m. to 4:30 p.m.) when the light was adequate for observation.

Table 2
Passenger Car Safety Belt Usage Rates in Illinois
(November 2001)

	Drivers		Passengers		Total	
	Total Observed (1)	Actual Usage Rate (2)	Total Observed (3)	Actual Usage Rate (4)	Total Observed (5)	Actual Usage Rate (6)
Statewide (258)	76,400	72.8%	15,134	74.4%	91,534	73.1%
Regions						
City of Chicago (46)	17,378	66.4%	3,536	64.8%	20,914	66.1%
Cook County (40)	10,289	71.6%	1,433	72.0%	11,722	71.6%
Collar Counties (118)	35,856	77.2%	8,035	80.4%	43,891	77.8%
Downstate (54)	12,877	70.2%	2,130	68.9%	15,007	70.1%
Road Type						
Residential (190)	48,780	69.3%	8,705	68.1%	57,485	69.1%
U.S./Illinois Highways (40)	12,290	75.1%	2,689	74.8%	14,979	75.0%
Interstate Highways (28)	15,330	82.2%	3,740	88.6%	19,070	83.5%
Time of Day*						
Morning Rush Hours (55)	20,639	71.9%	3,768	72.1%	24,407	71.9%
Noon Rush Hours (45)	14,230	69.0%	2,969	69.4%	17,199	69.1%
Non-Rush Hours (158)	41,531	74.6%	8,397	77.2%	49,928	75.0%
Day of Week						
Weekends (115)	36,217	75.1%	8,780	77.9%	44,997	75.6%
Weekdays (143)	40,183	70.8%	6,534	69.5%	46,537	70.6%

Note: Passenger cars (cars, sport utility vehicles, taxicabs and vans) were included in this table.

*Evening rush hour (4:30 p.m. to 6:30 p.m.) surveys were conducted during daylight hours (7:00 a.m. to 4:30 p.m.) when the light was adequate for observation.

Table 3
Pickup Truck Safety Belt Usage Rates in Illinois
(November 2001)

	Drivers		Passengers		Total	
	Total Observed (1)	Actual Usage Rate (2)	Total Observed (3)	Actual Usage Rate (4)	Total Observed (5)	Actual Usage Rate (6)
Statewide (258)	8,764	56.7%	1,863	55.6%	10,627	56.5%
Regions						
City of Chicago (46)	923	49.3%	301	39.5%	1,224	46.9%
Cook County (40)	851	53.6%	139	46.8%	990	52.6%
Collar Counties (118)	4,067	59.8%	952	60.4%	5,019	59.9%
Downstate (54)	2,923	55.7%	471	58.8%	3,394	56.1%
Road Type						
Residential (190)	4,871	54.8%	1,066	52.8%	5,937	54.4%
U.S./Illinois Highways (40)	2,109	54.2%	440	50.0%	2,549	53.5%
Interstate Highways (28)	1,784	65.0%	357	70.9%	2,141	66.0%
Time of Day*						
Morning Rush Hours (55)	2,305	55.3%	476	53.2%	2,781	54.9%
Noon Rush Hours (45)	1,732	54.7%	444	55.0%	2,176	54.7%
Non-Rush Hours (158)	4,727	58.2%	943	57.2%	5,670	58.0%
Day of Week						
Weekends (115)	4,199	56.7%	1,055	58.6%	5,254	57.1%
Weekdays (143)	4,565	56.8%	808	51.7%	5,373	56.0%

Note: Large trucks were excluded from the survey.

*Evening rush hour (4:30 p.m. to 6:30 p.m.) surveys were conducted during daylight hours (7:00 a.m. to 4:30 p.m.) when the light was adequate for observation.

Table 4
Overall Safety Belt Usage Rates in Illinois
(Comparison of July 2000 and November 2001)

	Drivers			Passengers			Total		
	Usage Rate (July)	Usage Rate (Nov.)	Percent Change	Usage Rate (July)	Usage Rate (Nov.)	Percent Change	Usage Rate (July)	Usage Rate (Nov.)	Percent Change
Statewide (258)	69.9%	71.2%	1.3%	71.5%	72.3%	0.8%	70.2%	71.4%	1.2%
Regions									
City of Chicago (46)	60.7%	65.5%	4.8%	57.6%	62.8%	5.2%	60.1%	65.0%	4.9%
Cook County (40)	65.0%	70.2%	5.2%	70.0%	69.8%	-0.2%	65.6%	70.2%	4.6%
Collar Counties (118)	74.6%	75.5%	0.9%	76.9%	78.3%	1.4%	75.1%	76.0%	0.9%
Downstate (54)	69.1%	67.6%	-1.5%	66.5%	67.1%	0.6%	68.6%	67.5%	-1.1%
Road Type									
Residential (190)	65.4%	68.0%	2.6%	65.9%	66.5%	0.6%	65.5%	67.7%	2.2%
U.S./Illinois Highways (40)	73.2%	72.0%	-1.2%	76.0%	71.3%	-4.7%	73.7%	71.9%	-1.8%
Interstate Highways (28)	79.9%	80.4%	0.5%	82.8%	87.0%	4.2%	80.5%	81.7%	1.2%
Time of Day*									
Morning Rush Hours (55)	71.2%	70.2%	-1.0%	73.3%	69.9%	-3.4%	71.6%	70.2%	-1.4%
Noon Rush Hours (45)	67.3%	67.4%	0.1%	66.5%	67.5%	1.0%	67.1%	67.5%	0.4%
Non-Rush Hours (158)	70.4%	72.9%	2.5%	73.6%	75.2%	1.6%	71.0%	73.3%	2.3%
Day of Week									
Weekends (115)	72.0%	73.2%	1.2%	74.1%	75.8%	1.7%	72.5%	73.7%	1.2%
Weekdays (143)	68.0%	69.4%	1.4%	67.1%	67.5%	0.4%	67.8%	69.1%	1.3%

Note: Pickup trucks and passenger cars (cars, sport utility vehicles, taxicabs and vans) were included in this table.

*Evening rush hour (4:30 p.m. to 6:30 p.m.) surveys were conducted during daylight hours (7:00 a.m. to 4:30 p.m.) when the light was adequate for observation.

Table 5
Passenger Car Safety Belt Usage Rates in Illinois
(Comparison of July 2000 and November 2001)

	Drivers			Passengers			Total		
	Usage Rate (July)	Usage Rate (Nov.)	Percent Change	Usage Rate (July)	Usage Rate (Nov.)	Percent Change	Usage Rate (July)	Usage Rate (Nov.)	Percent Change
Statewide (258)	71.7%	72.8%	1.1%	73.1%	74.4%	1.3%	71.9%	73.1%	1.2%
Regions									
City of Chicago (46)	61.6%	66.4%	4.8%	58.7%	64.8%	6.1%	61.1%	66.1%	5.0%
Cook County (40)	66.5%	71.6%	5.1%	71.2%	72.0%	0.8%	67.2%	71.6%	4.4%
Collar Counties (118)	76.5%	77.2%	0.7%	78.7%	80.4%	1.7%	77.0%	77.8%	0.8%
Downstate (54)	71.8%	70.2%	-1.6%	68.5%	68.9%	0.4%	71.3%	70.1%	-1.2%
Road Type									
Residential (190)	67.0%	69.3%	2.3%	67.5%	68.1%	0.6%	67.1%	69.1%	2.0%
U.S./Illinois Highways (40)	75.4%	75.1%	-0.3%	77.7%	74.8%	-2.9%	75.8%	75.0%	-0.8%
Interstate Highways (28)	81.6%	82.2%	0.6%	84.3%	88.6%	4.3%	82.2%	83.5%	1.3%
Time of Day*									
Morning Rush Hours (55)	73.1%	71.9%	-1.2%	75.1%	72.1%	-3.0%	73.5%	71.9%	-1.6%
Noon Rush Hours (45)	69.4%	69.0%	-0.4%	67.7%	69.4%	1.7%	69.0%	69.1%	0.1%
Non-Rush Hours (158)	72.1%	74.6%	2.5%	75.1%	77.2%	2.1%	72.6%	75.0%	2.4%
Day of Week									
Weekends (115)	73.8%	75.1%	1.3%	75.6%	77.9%	2.3%	74.3%	75.6%	1.3%
Weekdays (143)	69.6%	70.8%	1.2%	68.7%	69.5%	0.8%	69.5%	70.6%	1.1%

Note: Passenger cars (cars, sport utility vehicles, taxicabs and vans) were included in this table.

*Evening rush hour (4:30 p.m. to 6:30 p.m.) surveys were conducted during daylight hours (7:00 a.m. to 4:30 p.m.) when the light was adequate for observation.

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Table 6
Pickup Truck Safety Belt Usage Rates in Illinois
(Comparison of July 2000 and November 2001)

	Drivers			Passengers			Total		
	Usage Rate (July)	Usage Rate (Nov.)	Percent Change	Usage Rate (July)	Usage Rate (Nov.)	Percent Change	Usage Rate (July)	Usage Rate (Nov.)	Percent Change
Statewide (258)	54.1%	56.7%	2.6%	54.7%	55.6%	0.9%	54.2%	56.5%	2.3%
Regions									
City of Chicago (46)	40.9%	49.3%	8.4%	27.8%	39.5%	11.7%	39.0%	46.9%	7.9%
Cook County (40)	45.9%	53.6%	7.7%	43.8%	46.8%	3.0%	45.7%	52.6%	6.9%
Collar Counties (118)	58.0%	59.8%	1.8%	59.0%	60.4%	1.4%	58.2%	59.9%	1.7%
Downstate (54)	53.0%	55.7%	2.7%	52.6%	58.8%	6.2%	53.0%	56.1%	3.1%
Road Type									
Residential (190)	49.0%	54.8%	5.8%	47.3%	52.8%	5.5%	48.7%	54.4%	5.7%
U.S./Illinois Highways (40)	58.7%	54.2%	-4.5%	62.3%	50.0%	-12.3%	59.3%	53.5%	-5.8%
Interstate Highways (28)	62.8%	65.0%	2.2%	65.4%	70.9%	5.5%	63.2%	66.0%	2.8%
Time of Day*									
Morning Rush Hours (55)	55.0%	55.3%	0.3%	57.7%	53.2%	-4.5%	55.5%	54.9%	-0.6%
Noon Rush Hours (45)	48.9%	54.7%	5.8%	54.1%	55.0%	0.9%	49.9%	54.7%	4.8%
Non-Rush Hours (158)	55.3%	58.2%	2.9%	55.6%	57.2%	1.6%	55.3%	58.0%	2.7%
Day of Week									
Weekends (115)	55.5%	56.7%	1.2%	58.5%	58.6%	0.1%	56.1%	57.1%	1.0%
Weekdays (143)	52.7%	56.8%	4.1%	47.5%	51.7%	4.2%	52.1%	56.0%	3.9%

Note: Large trucks were excluded from the survey.

*Evening rush hour (4:30 p.m. to 6:30 p.m.) surveys were conducted during daylight hours (7:00 a.m. to 4:30 p.m.) when the light was adequate for observation.

Figure 2
Overall Safety Belt Usage Rates in Illinois in 2000-2001

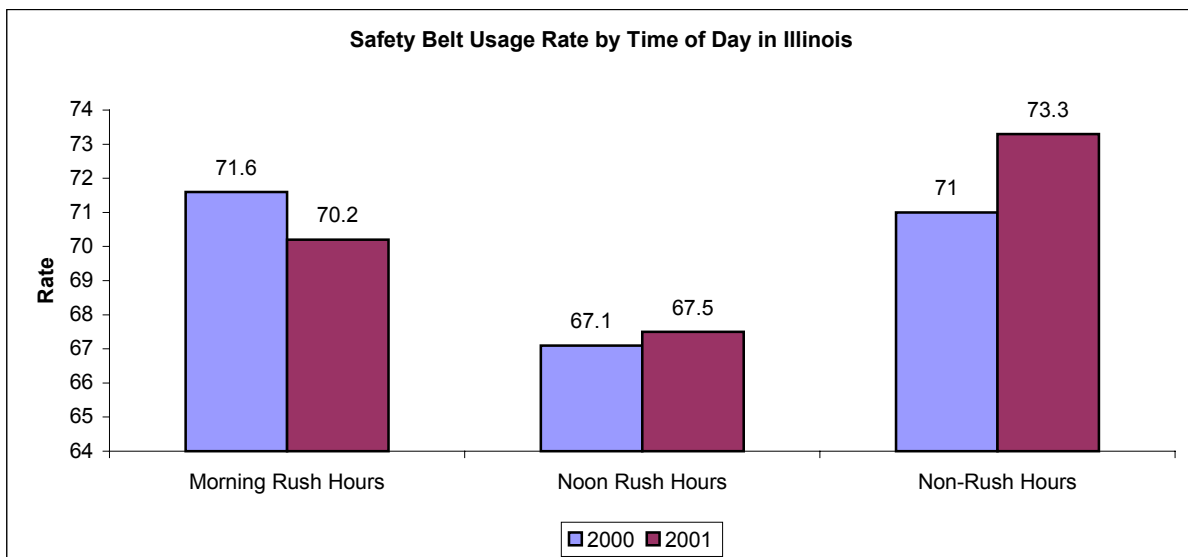
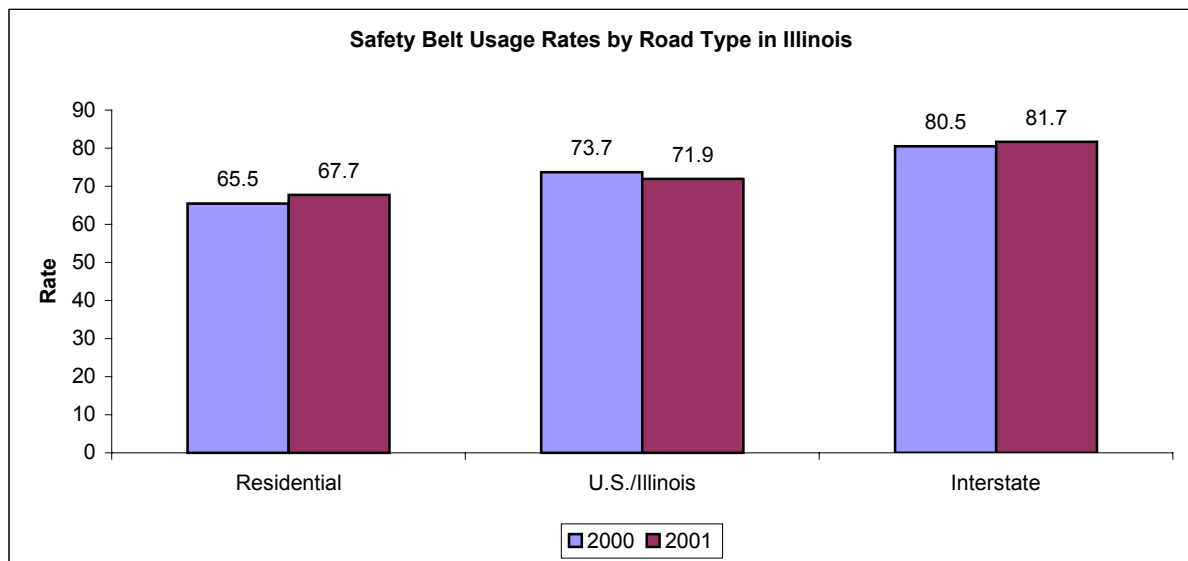
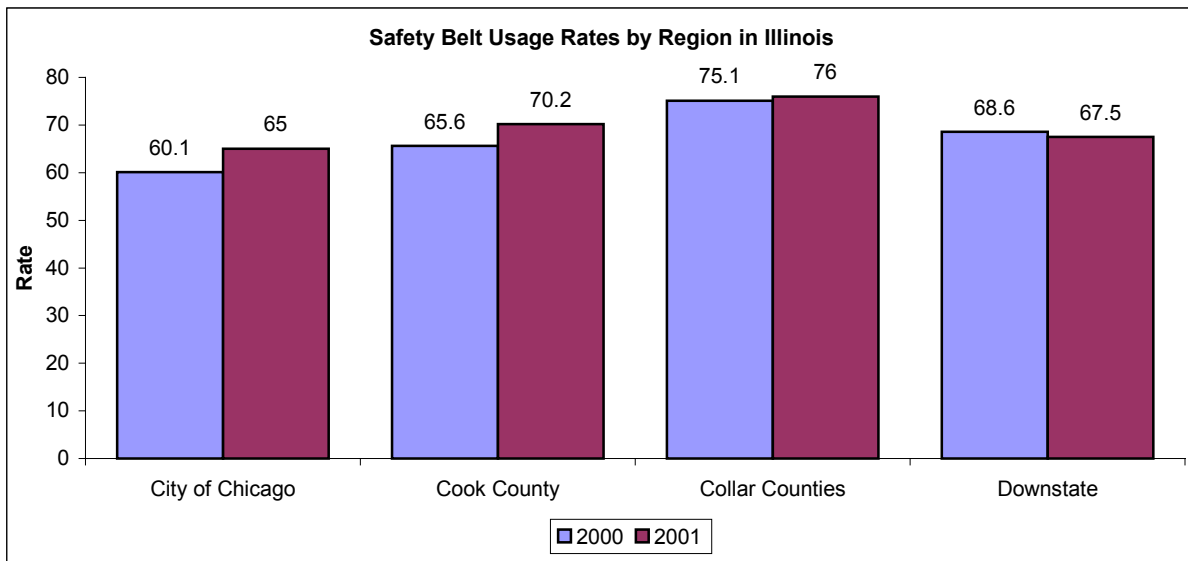


Figure 3
Passenger Car Safety Belt Usage Rates in Illinois in 2000-2001

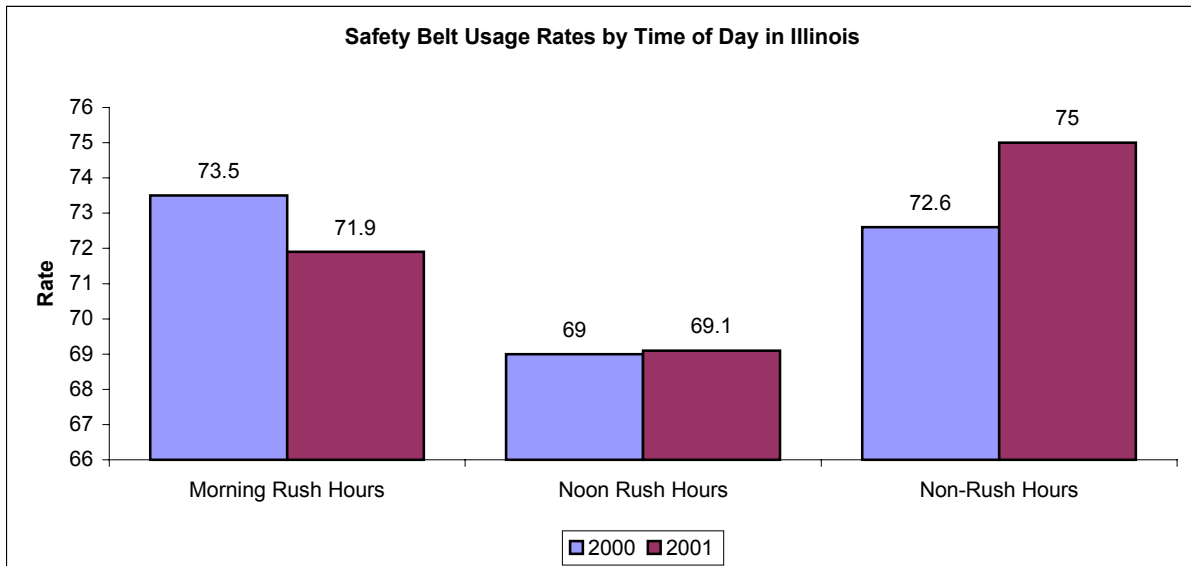
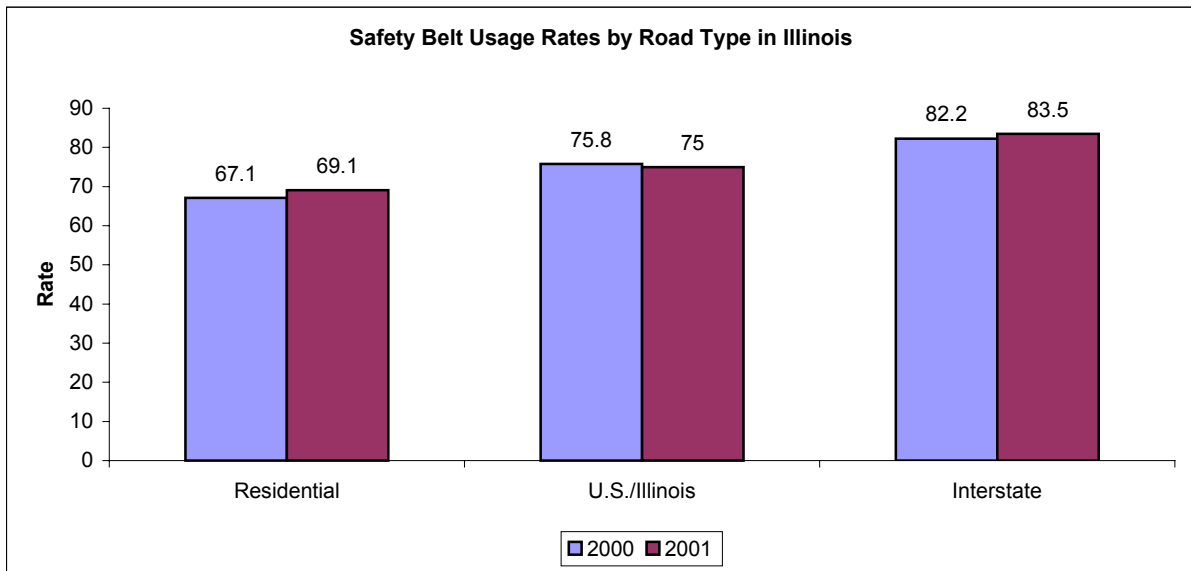
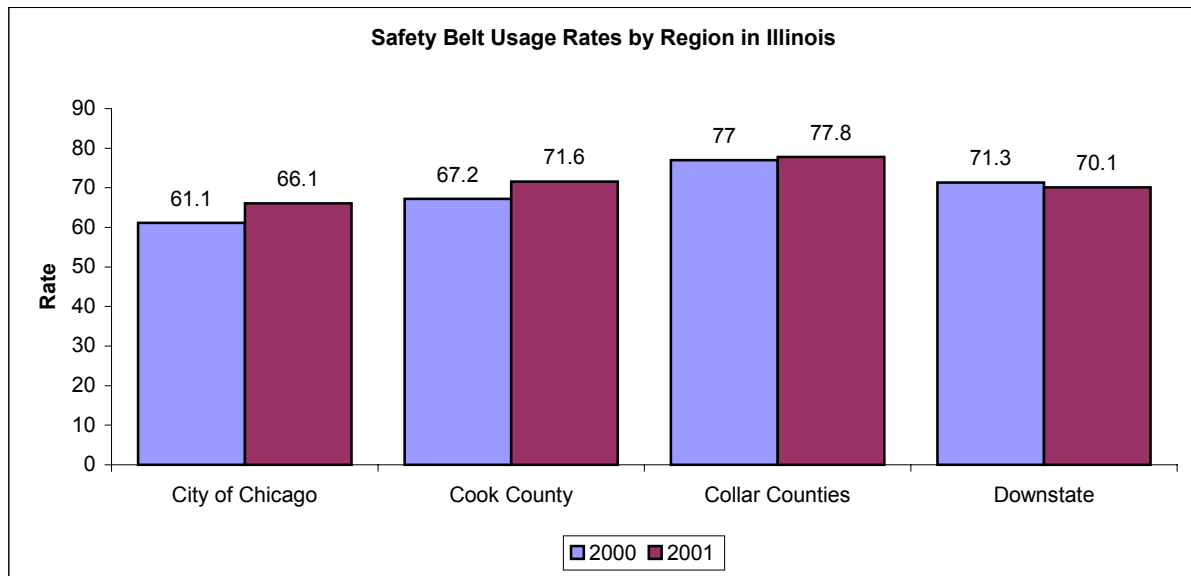


Figure 4
Pickup Truck Safety Belt Usage Rates in Illinois in 2000-2001

